

IN THE CLAIMS

1. (Currently Amended) A network device comprising:
 - a duplicate packet map (DPM), wherein
 - said DPM comprises
 - a first DPM field comprising a first plurality of bit entries, **and**
 - a second DPM field comprising a second plurality of bit entries,
 - said first DPM field is designated as a previous time interval field,
 - said second DPM field is designated as a current time interval field,
 - said previous time interval field corresponds to a previous time interval,
 - said current time interval field corresponds to a current time interval,
 - said previous time interval occurs before said current time interval,
 - said previous time interval is substantially equal in duration to said current time interval, and
 - said previous time interval is distinct from said current time interval;
 - a packet summary value (PSV) generator, wherein
 - said DPM is coupled to said PSV generator,
 - said PSV generator is configured to, responsive to receiving a packet,
 - extract data from said packet, and
 - calculate a PSV using said data from said packet by virtue of being configured to
 - generate hashed data by hashing said data from said packet using a hashing function, wherein
 - said PSV corresponds to said hashed data, and
 - said DPM is configured to receive said PSV; and
 - a DPM bank, wherein
 - said DPM bank is configured to store a plurality of DPMs, **[[and]]**
 - said plurality of DPMs comprises said DPM, **and**
 - said DPM bank further comprises**
 - a DPM addressing unit coupled to said DPMs,**
 - a selection unit coupled to said DPMs, and**

a DPM control unit, coupled to control said DPM addressing unit, said DPMs and said selection unit.

2-3. (Cancelled)

4. (Previously Presented) The network device of claim 1, wherein said DPM is implemented as a Bloom filter.

5. (Previously Presented) The network device of claim 1, wherein a bit entry of each said first and second DPM fields corresponds to said PSV.

6. (Previously Presented) The network device of claim 1, wherein said PSV comprises a third plurality of bit entries, and each bit entry of said first and second DPM fields corresponds to a bit in said third plurality of bit entries of said PSV.

7. (Previously Presented) The network device of claim 1, wherein said PSV comprises a third plurality of bit entries, each bit entry of said first plurality of bit entries and each bit entry of said second plurality of bit entries correspond to a bit entry of said third plurality of bit entries of said PSV, said first DPM field is configured to compare a value of a bit entry of said third plurality of bit entries of said PSV with a value of a corresponding bit entry of said first plurality of bit entries to generate an output, said second DPM field is configured to compare a value of a bit entry of said third plurality of bit entries of said PSV with a value of a corresponding bit entry of said second plurality of bit entries to generate an output, and a value of each of said outputs indicates whether said value of said bit entry of said third plurality of bit entries of said PSV matches said values of said corresponding bit entries of each of said first plurality of bit entries and said second plurality of bit entries.

8. (Previously Presented) The network device of claim 1, wherein said PSV comprises a third plurality of bit entries, each of said first and second DPM fields is configured to be addressed using said PSV, each bit entry of said first plurality of bit entries and each bit entry of said second plurality of bit entries is configured to be selected using said third plurality of bit entries of said PSV as an address, a value of said bit entry of said first plurality of bit entries and a value of said bit entry of said second plurality of bit entries correspond to said PSV, and said value of said bit entry of said first plurality of bit entries and said value of said bit entry of said second plurality of bit entries indicates whether said packet is said duplicate packet.
9. (Previously Presented) The network device of claim 1, wherein said PSV generator is configured to calculate said PSV using a cyclic redundancy check (CRC) calculation; and said data from said packet is path-independent.
10. (Previously Presented) The network device of claim 9, wherein the data from said packet excludes header and trailer information.
- 11.-16. (Cancelled)
17. (Previously Presented) The network device of claim 1, wherein each of said DPMs is implemented as a Bloom filter.
- 18.-19. (Cancelled)
20. (Original) The network device of claim ~~[[19]]~~ **1**, wherein said DPM control unit is configured to select a first one of said DPMs as a current DPM and a second one of said DPMs as a previous DPM.

21. (Original) The network device of claim 20, wherein
said DPM control unit is configured to cause said DPM addressing unit to provide
said PSV to said current DPM and said previous DPM; and
said DPM control unit is configured to cause said selection unit to select said
current DPM and said previous DPM.
22. (Original) The network device of claim 20, wherein
said DPM control unit is configured to select said previous DPM as an inactive
DPM and to clear said inactive DPM.
23. (Previously Presented) The network device of claim 1, further
comprising:
said packet summary value (PSV) generator
is coupled to each of said DPMs.
24. (**Currently Amended**) The network device of claim 23, wherein ~~said~~
~~DPM bank further comprises:~~
[[a]] said DPM addressing unit is coupled between said PSV generator and said
DPMs[[: and]] .
~~a selection unit coupled to said DPMs.~~
25. (**Cancelled**)
26. (Original) The network device of claim ~~[[25]]~~ 24, wherein
said selection unit is configured to generate a hit signal, and
said hit signal indicates that bit values of said PSV match bit values stored in
corresponding locations in a one of said DPMs.
27. (Original) The network device of claim 9, wherein
said PSV generator is configured to generate a PSV based on a packet received by
said PSV generator, and
said DPM is configured to receive said PSV.

28. (Original) The network device of claim 27, wherein said DPM is further configured to indicate that said PSV matches a PSV stored in said DPM.
29. (Original) The network device of claim 28, wherein said PSV generator is configured to generate said PSV using a cyclic redundancy check computation.
30. (Original) The network device of claim 9, further comprising:
a packet processing unit, said packet processing unit comprising said PSV generator.
31. **(Currently Amended)** The network device of claim 30, ~~further comprising:~~ wherein
~~a DPM bank, wherein~~
~~said DPM bank comprises said DPM,~~
said DPM bank is configured to generate a hit signal, and
said DPM bank is coupled to receive said PSV from said PSV generator
and to provide said hit signal to said packet processing unit.
32. (Original) The network device of claim 31, wherein said hit signal indicates that a value of said PSV matches a value stored in a one of said DPMs.
33. (Original) The network device of claim 31, wherein said hit signal indicates that bit values of said PSV match bit values stored in corresponding locations in a one of said DPMs.
34. (Original) The network device of claim 31, wherein said packet processing unit is configured to process said packet using said hit signal.

35. (Original) The network device of claim 31, wherein said processing includes causing said packet processing unit to drop said packet based on said hit signal.
36. **(Currently Amended)** A method comprising:
causing a packet summary value (PSV) generator to generate a PSV, wherein
said generating said PSV comprises, responsive to receiving a packet,
extracting data from said packet, and
calculating said PSV using said data from said packet by virtue of
being configured to
generate hashed data by hashing said data from said packet
using a hashing function, wherein
said PSV corresponds to said hashed data; **[[and]]**
determining if a field of a duplicate packet map (DPM) indicates said packet is a
duplicate packet, wherein
said DPM is one of a plurality of DPMs included in a DPM bank,
said determining uses said PSV,
said PSV corresponds to said packet by virtue of said PSV corresponding
to said hashed data,
said DPM comprises
a first DPM field comprising a first plurality of bit entries, **and**
a second DPM field comprising a second plurality of bit entries,
said PSV comprises a third plurality of bit entries,
said first DPM field is designated as a previous time interval field,
said second DPM field is designated as a current time interval field,
said previous time interval field corresponds to a previous time interval,
said current time interval field corresponds to a current time interval,
said previous time interval occurs before said current time interval,
said previous time interval is substantially equal in duration to said current
time interval, **[[and]]**
said previous time interval is distinct from said current time interval,

each bit entry of said first plurality of bit entries and each bit entry of
said second plurality of bit entries correspond to a bit entry of
said third plurality of bit entries of said PSV, and
said determining comprises
comparing said PSV to said first DPM field by comparing a
value of a bit entry of said third plurality of bit entries
of said PSV with a value of a corresponding bit entry of
said first plurality of bit entries, and
comparing said PSV to said second DPM field by comparing
said value of said bit entry of said third plurality of bit
entries of said PSV with a value of a corresponding bit
entry of said second plurality of bit entries; and
indicating said packet is said duplicate packet, wherein
said indicating is performed if said value of said bit entry of said third
plurality of bit entries of said PSV matches
said value of said corresponding bit entry of said first plurality
of bit entries, and
said value of said corresponding bit entry of said second
plurality of bit entries.

37. (Cancelled)

38. (Currently Amended) The method of claim [[37]] 36, further comprising:
dropping said packet, if said packet is said duplicate packet.

39. (Cancelled)

40. (Cancelled)

41. (Currently Amended) The method of claim ~~[[40]]~~ **36**, further comprising:
setting said value of said corresponding bit entry of said first plurality of bit entries to said value of said bit entry of said third plurality of bit entries of said PSV.
42. (Currently Amended) The method of claim ~~[[37]]~~ **36**, wherein said determining comprises:
selecting a bit entry of said first DPM field based on said PSV, and
selecting a bit entry of said second DPM field based on said PSV.
43. (Currently Amended) The method of claim ~~[[37]]~~ **36**, wherein ~~said PSV comprises a third plurality of bit entries,~~
each bit entry of said first plurality of bit entries and each bit entry of said second plurality of bit entries is configured to be addressed using said third plurality of bit entries of said PSV, wherein
a value of said bit entry of said first plurality of bit entries and a value of said bit entry of said second plurality of bit entries correspond to said PSV,
said determining comprises
selecting a corresponding bit entry of said first plurality of bit entries using said third plurality of bit entries of said PSV as an address, and
selecting a corresponding bit entry of said second plurality of bit entries using said third plurality of bit entries of said PSV as an address,
and
said indicating is performed if said value of said bit entry of said first plurality of bit entries and said value of said bit entry of said second plurality of bit entries indicates that said packet is said duplicate packet.
44. (Previously Presented) The method of claim 43, further comprising:
setting said value of said corresponding bit entry of said first plurality of bit entries, if said packet is not said duplicate packet.

45. (Previously Presented) The method of claim 44, further comprising:
said generating said PSV further comprises calculating a cyclic redundancy check
value based on said data in said packet, wherein
said data from said packet excludes header and trailer information, and
said data from said packet is path-independent.
46. (Cancelled)
47. (**Currently Amended**) The method of claim ~~[[37]]~~ **36**, further
comprising:
selecting a first DPM of said plurality of DPMs as a previous DPM; and
selecting a second DPM of said plurality of DPMs as a current DPM.
48. (Original) The method of claim 47, further comprising:
determining if a field of said previous DPM indicates said packet is said duplicate
packet, using said PSV; and
determining if a field of said current DPM indicates said packet is said duplicate
packet, using said PSV.
49. (Original) The method of claim 48, further comprising:
indicating said packet is not said duplicate packet, if said field of said previous
DPM indicates said packet is not said duplicate packet and said field of
said current DPM indicates said packet is not said duplicate packet, and
indicating said packet is said duplicate packet, otherwise.
50. (Original) The method of claim 47, further comprising:
selecting said previous DPM as an inactive DPM;
selecting said current DPM as said previous DPM; and
selecting another DPM of said DPMs as said current DPM.
51. (Original) The method of claim 50, further comprising:
clearing said inactive DPM prior to said inactive DPM being selected as said
current DPM.

52. (Original) The method of claim 50, wherein
said selecting said previous DPM as said inactive DPM, said selecting said
current DPM as said previous DPM, and said selecting said another DPM
of said DPMs as said current DPM are performed periodically.
53. (Original) The method of claim 52, wherein
a period of said performing periodically is such that said period is greater than an
expected differential between duplicate packet arrivals and said period is
less than a time between packet retransmissions.
54. (Original) The method of claim 52, wherein
a period of said performing periodically is configured to allow said inactive DPM
to be cleared prior to said inactive DPM being selected as said current
DPM.
55. **(Currently Amended)** A network device comprising:
a processor;
a computer readable medium coupled to said processor; and
computer code, encoded in said computer readable medium configured to cause
said processor to:
generate a packet summary value (PSV), wherein
said computer code configured to cause said processor to generate
said PSV comprises computer code configured to cause
said processor to, responsive to receiving a packet,
extract data from said packet, and
calculate said PSV using said data from said packet
by virtue of being configured to
generate hashed data by hashing said data from said
packet using a hashing function, wherein
said PSV corresponds to said hashed data,
[[and]]
determine if a field of a duplicate packet map (DPM) indicates said packet
is a duplicate packet, wherein

said DPM is one of a plurality of DPMs included in a DPM bank,
said computer code configured to cause said processor to

determine uses said PSV,

said PSV corresponds to said packet by virtue of said PSV
corresponding to said hashed data, and

said DPM comprises

a first DPM field comprising a first plurality of bit entries,

and

a second DPM field comprising a second plurality of bit
entries,

said PSV comprises a third plurality of bit entries,

said first DPM field is designated as a previous time interval field,
said second DPM field is designated as a current time interval
field,

said previous time interval field corresponds to a previous time
interval,

said current time interval field corresponds to a current time
interval,

said previous time interval occurs before said current time interval,

said previous time interval is substantially equal in duration to said
current time interval, **[[and]]**

said previous time interval is distinct from said current time
interval,

**each bit entry of said first plurality of bit entries and each bit
entry of said second plurality of bit entries correspond
to a bit entry of said third plurality of bit entries of said
PSV, and**

**said computer code configured to cause said processor to
determine comprises computer code further configured
to cause said processor to
compare a value of a bit entry of said third plurality of
bit entries of said PSV with a value of a**

corresponding bit entry of said first plurality of
bit entries, and
compare said value of said bit entry of said third
plurality of bit entries of said PSV with a value
of a corresponding bit entry of said second
plurality of bit entries, and
indicate said packet is said duplicate packet, if said value of said bit
entry of said third plurality of bit entries of said PSV matches
said value of said corresponding bit entry of said first plurality
of bit entries, and
said value of said corresponding bit entry of said second
plurality of bit entries.

56. (Original) The network device of claim 55, wherein said computer code is further configured to cause said processor to to[:]]indicate said packet is said duplicate packet[[],] **is configured to indicate said packet is said duplicate packet** if said computer code configured to cause said processor to determine determines said packet is said duplicate packet.

57. (Previously Presented) The network device of claim 56, wherein said computer code is further configured to cause said processor to:

- compare said PSV to said first DPM field, and
- compare said PSV to said second DPM field.

58. (Previously Presented) The network device of claim 56, wherein said computer code is further configured to cause said processor to:

- select a bit entry of said first DPM field based on said PSV, and
- select a bit entry of said second DPM field based on said PSV.

59. (Previously Presented) The network device of claim 58, wherein said computer code is further configured to cause said processor to:
generate said PSV by virtue of being configured to calculate a cyclic redundancy
check value based on said data in said packet, wherein
said data from said packet excludes header and trailer information, and
said data from said packet is path-independent.

60. (Cancelled)

61. (Previously Presented) The network device of claim 55, wherein said computer code is further configured to cause said processor to:
select a first DPM of said DPMs as a previous DPM; and
select a second DPM of said DPMs as a current DPM.

62. (Original) The network device of claim 61, wherein said computer code is further configured to cause said processor to:
determine if a field of said previous DPM indicates said packet is said duplicate
packet, using said PSV; and
determine if a field of said current DPM indicates said packet is said duplicate
packet, using said PSV.

63. (Original) The network device of claim 62, wherein said computer code is further configured to cause said processor to:
indicate said packet is not said duplicate packet, if said field of said previous
DPM indicates said packet is not said duplicate packet and said field of
said current DPM indicates said packet is not said duplicate packet, and
indicate said packet is said duplicate packet, otherwise.

64. (Original) The network device of claim 61, wherein said computer code is further configured to cause said processor to:
select said previous DPM as an inactive DPM;
select said current DPM as said previous DPM; and
select another DPM of said DPMs as said current DPM.

65. (Original) The network device of claim 64, wherein said computer code further configured to cause said processor to select said previous DPM as said inactive DPM, said computer code further configured to cause said processor to select said current DPM as said previous DPM, and said computer code further configured to cause said processor to select said another DPM of said DPMs as said current DPM are further configured to be performed periodically.
66. (Original) The network device of claim 65, wherein a period of said performing periodically is such that said period is greater than an expected differential between duplicate packet arrivals and said period is less than a time between packet retransmissions.
67. (Original) The network device of claim 65, wherein a period of said performing periodically is configured to allow said inactive DPM to be cleared prior to said inactive DPM being selected as said current DPM.
68. (Currently Amended) A non-transitory computer-readable storage medium comprising program instructions executable on a processor, the computer-readable storage medium encoding the program instructions, wherein the program instructions comprise:
- a first set of instructions configured to determine if a field of a duplicate packet map (DPM) indicates a packet is a duplicate packet, wherein said DPM is one of a plurality of DPMs included in a DPM bank, said first set of instructions is configured to determine if said field of said duplicate packet map indicates said packet is said duplicate packet using a packet summary value (PSV) corresponding to said packet, and
 - said DPM comprises
 - a first DPM field comprising a first plurality of bit entries, **and**
 - a second DPM field comprising a second plurality of bit entries, **said PSV comprises a third plurality of bit entries.**

said first DPM field is designated as a previous time interval field,
 said second DPM field is designated as a current time interval field,
 said previous time interval field corresponds to a previous time interval,
 said current time interval field corresponds to a current time interval,
 said previous time interval occurs before said current time interval,
 said previous time interval is substantially equal in duration to said current
 time interval, **[[and]]**

said previous time interval is distinct from said current time interval^{[[;}
and]] ,

each bit entry of said first plurality of bit entries and each bit entry of
said second plurality of bit entries correspond to a bit entry of
said third plurality of bit entries of said PSV, and
said first set of instructions comprises

a first subset of instructions configured to compare a value of a
bit entry of said third plurality of bit entries of said PSV
with a value of a corresponding bit entry of said first
plurality of bit entries, and
a second subset of instructions configured to compare said
value of said bit entry of said third plurality of bit
entries of said PSV with a value of a corresponding bit
entry of said second plurality of bit entries;

a second set of instructions configured to generate said packet summary value
 (PSV), wherein

said second set of instructions comprises instructions configured to
 cause said processor to, responsive to receiving said packet,
 extract data from said packet, and
 calculate said PSV using said data from said packet by virtue of
 being configured to
 generate hashed data by hashing said data from said packet
 using a hashing function, wherein
 said PSV corresponds to said hashed data; **and**

a third set of instructions configured to indicate said packet is said duplicate packet, if said value of said bit entry of said third plurality of bit entries of said PSV matches said value of said corresponding bit entry of said first plurality of bit entries, and said value of said corresponding bit entry of said second plurality of bit entries.

69. (Currently Amended) The program instructions of claim 68, further comprising:

a ~~[[third]]~~ **fourth** set of instructions configured to indicate said packet is said duplicate packet, if said first set of instructions configured to cause said processor to determine determines said packet is said duplicate packet.

70. (Currently Amended) The program instructions of claim 69, further comprising:

a ~~[[fourth]]~~ **fifth** set of instructions configured to compare said PSV to said first DPM field, and
compare said PSV to said second DPM field.

71. (Currently Amended) The program instructions of claim 69, further comprising:

a ~~[[fourth]]~~ **fifth** set of instructions configured to select a bit entry of said first DPM field based on said PSV, and
select a bit entry of said second DPM field based on said PSV.

72. (Currently Amended) The program instructions of claim 71, further comprising:

a ~~[[fifth]]~~ **sixth** set of instructions configured to generate said PSV by virtue of being configured to calculate a cyclic redundancy check value based on said data in said packet, wherein
said data from said packet excludes header and trailer information, and
said data from said packet is path-independent.

73. (Cancelled)

74. (Currently Amended) The program instructions of claim 68, further comprising:

- a ~~[[third]]~~ **fourth** set of instructions configured to select a first DPM of said DPMs as a previous DPM; and
- a ~~[[fourth]]~~ **fifth** set of instructions configured to select a second DPM of said DPMs as a current DPM.

75. (Currently Amended) The program instructions of claim 74, further comprising:

- a ~~[[fifth]]~~ **sixth** set of instructions configured to determine if a field of said previous DPM indicates said packet is said duplicate packet, using said PSV; and
- a ~~[[sixth]]~~ **seventh** set of instructions configured to determine if a field of said current DPM indicates said packet is said duplicate packet, using said PSV.

76. (Currently Amended) The program instructions of claim 75, further comprising:

- ~~a sixth~~ **an eighth** set of instructions configured to indicate said packet is not said duplicate packet, if said field of said previous DPM indicates said packet is not said duplicate packet and said field of said current DPM indicates said packet is not said duplicate packet, and
- a ~~eighth~~ **ninth** set of instructions configured to indicate said packet is said duplicate packet, otherwise.

77. (Currently Amended) The program instructions of claim 74, further comprising:

- a ~~[[fifth]]~~ **sixth** set of instructions configured to select said previous DPM as an inactive DPM;
- a ~~[[sixth]]~~ **seventh** set of instructions configured to select said current DPM as said previous DPM; and

~~a-seventh~~ an eighth set of instructions configured to select another DPM of said DPMs as said current DPM.

78. **(Currently Amended)** The program instructions of claim 77, wherein said ~~[[fifth]]~~ sixth, said ~~[[sixth]]~~ seventh, and said ~~seventh~~ eighth set of instructions are performed periodically.

79. **(Previously Presented)** The program instructions of claim 78, wherein a period of said performing periodically is such that said period is greater than an expected differential between duplicate packet arrivals and said period is less than a time between packet retransmissions.

80. **(Previously Presented)** The program instructions of claim 78, wherein a period of said performing periodically is configured to allow said inactive DPM to be cleared prior to said inactive DPM being selected as said current DPM.

81. **(Currently Amended)** An apparatus comprising:
means for generating a packet summary value (PSV), wherein
said means for generating said PSV comprises means for, responsive to
receiving a packet,
extracting data from said packet, and
calculating said PSV using said data from said packet, wherein
said means for calculating said PSV comprises means for
generating hashed data by hashing said data from
said packet using a hashing function, and
said PSV corresponds to said hashed data; and
means for determining if a field of a duplicate packet map (DPM) indicates a
packet is a duplicate packet, wherein
said DPM is one of a plurality of DPMs included in a DPM bank,
said means for determining uses said PSV,
said PSV corresponds to said packet by virtue of said PSV corresponding
to said hashed data, said DPM comprises

a first DPM field comprising a first plurality of bit entries, **and**
a second DPM field comprising a second plurality of bit entries,
said first DPM field is designated as a previous time interval field,
said second DPM field is designated as a current time interval field,
said previous time interval field corresponds to a previous time interval,
said current time interval field corresponds to a current time interval,
said previous time interval occurs before said current time interval,
~~said previous time interval is substantially equal in duration to said~~
~~current time interval,~~ and
said previous time interval is distinct from said current time interval;
means for indicating said packet is said duplicate packet, wherein
said means for indicating is configured to indicate said packet is said
duplicate packet if said means for determining determines said
packet is said duplicate packet, and
said means for indicating comprises
a DPM addressing unit coupled to said DPMs,
a selection unit coupled to said DPMs, and
a DPM control unit, coupled to control said DPM addressing unit,
said DPMs, and said selection unit[[,]]; and
means for selecting said field of said DPM based on said PSV.

82. (Cancelled)

83. (Previously Presented) The apparatus of claim 81, wherein said means for determining comprises:

means for comparing said PSV to said DPM.

84. (Cancelled)

85. (Previously Presented) The apparatus of claim 81, wherein:
said means for generating said PSV further comprises means for calculating a
cyclic redundancy check value based on said data in said packet, wherein
the data from said packet excludes header and trailer information, and
the data from said packet is path-independent.
86. (Cancelled)
87. (Previously Presented) The apparatus of claim 81, further comprising:
means for selecting a first DPM of said DPMs as a previous DPM; and
means for selecting a second DPM of said DPMs as a current DPM.
88. (Original) The apparatus of claim 87, further comprising:
means for determining if a field of said previous DPM indicates said packet is
said duplicate packet, using said PSV; and
means for determining if a field of said current DPM indicates said packet is said
duplicate packet, using said PSV.
89. (Original) The apparatus of claim 88, further comprising:
means for indicating said packet is not said duplicate packet, if said field of said
previous DPM indicates said packet is not said duplicate packet and said
field of said current DPM indicates said packet is not said duplicate
packet, and
means for indicating said packet is said duplicate packet, otherwise.
90. (Original) The apparatus of claim 87, further comprising:
means for selecting said previous DPM as an inactive DPM;
means for selecting said current DPM as said previous DPM; and
means for selecting another DPM of said DPMs as said current DPM.
91. (Original) The apparatus of claim 90, further comprising:
means for clearing said inactive DPM prior to said inactive DPM being selected
as said current DPM.

92. (Original) The apparatus of claim 90, wherein
said means for selecting said previous DPM as said inactive DPM, said means for
selecting said current DPM as said previous DPM, and said means for
selecting said another DPM of said DPMs as said current DPM perform
their respective selections periodically.
93. (Currently Amended) [[The]] A method of Claim 36, comprising:
causing a packet summary value (PSV) generator to generate a PSV, wherein
said generating said PSV comprises, responsive to receiving a packet,
extracting data from said packet, and
calculating said PSV using said data from said packet by virtue
of being configured to
generate hashed data by hashing said data from said
packet using a hashing function, wherein
said PSV corresponds to said hashed data;
determining if a field of a duplicate packet map (DPM) indicates said packet
is a duplicate packet, wherein
said DPM is one of a plurality of DPMs included in a DPM bank,
said determining uses said PSV,
said PSV corresponds to said packet by virtue of said PSV
corresponding to said hashed data,
said DPM comprises
a first DPM field comprising a first plurality of bit entries, and
a second DPM field comprising a second plurality of bit
entries,
said first DPM field is designated as a previous time interval field,
said second DPM field is designated as a current time interval field,
said previous time interval field corresponds to a previous time
interval,
said current time interval field corresponds to a current time interval,
said previous time interval occurs before said current time interval,
said previous time interval is substantially equal in duration to said
current time interval,

said previous time interval is distinct from said current time interval,

said hashing said data uses a plurality of hashing functions, **wherein and**

said plurality of hashing functions comprise said hashing function, ~~and~~

further comprising: ; and

minimizing a number of some plurality of hashing functions used in said

generating said PSV for a given probability of false positives, wherein

said DPM comprises a number of bits, and

said plurality of hashing functions used is proportional to a ratio of said

number of bits in said DPM to a number of packets analyzed in a
time period, wherein

said time period is the combined duration of said current time
interval and said previous time interval,

said time period can be dynamically adjusted by changing the

duration of said current time interval and said previous time
interval, and

said analysis comprises

said causing said PSV generator to generate said PSV, and

said determining if said field of said DPM indicates said
packet is said duplicate packet.